

## Reviews

### A Review of *Qingchang Shuan* for Treatment of Ulcerative Colitis

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*Qingchang Shuan* (清肠栓) is a commonly used Chinese herbal suppository for treatment of ulcerative colitis (UC). It has the effects of clearing away heat and toxic materials, and promoting tissue regeneration by removing blood stasis. This article presents a review of the literatures about clinical and experimental studies on the effects of *Qingchang Shuan* for treatment of UC, aiming at providing some new approaches to the treatment of this disease.

Ulcerative colitis (UC) is a chronic nonspecific disease of the digestive tract, manifested by abdominal pain, diarrhea, mucopurulent bloody stool, and tenesmus, with the pathological changes of inflammation of the colic mucosa and submucous layer, and ulceration. It may be related with gene, intestinal flora, immunological imbalance, diet allergy, and mental depression and anxiety. This disease is difficult to treat, with long duration of the illness and repeated recurrences. At present, the sick rate and morbidity rate of this disease are obviously on the rise in China.<sup>1</sup>

TCM holds that the occurrence of UC is related with the six climate exopathogens, irregular food intake, irregular daily life, emotional impairment, and congenital defect. Blood stasis due to heat, and damp-heat obstructing the intestinal tract is the key pathogenesis of the disease. Therefore, the treating principle for the disease is to clear away heat, resolve dampness, promote blood circulation and stop bleeding. The TCM therapies for UC include oral

medication of Chinese herbs, rectally, acupuncture and Chinese *Tuina*, diet regulation, emotional regulation, and *Qigong*. The therapies are often used in combination, and oral medication plus rectally is mostly used.

In referring to the ancient literatures on treatment of mucosal ulceration with *Xilei San* (锡类散) and *Qingdai San* (青黛散), *Qingchang Shuan* is prepared through long years of clinical practice, which contains Ma Chi Xian (马齿苋 *Herba Portulacae*), Qing Dai (青黛 *Indigo Naturalis*) and San Qi (三七 *Radix Notoginseng*), with the effects of clearing away heat and toxic materials, promoting blood circulation and removing blood stasis, eliminating the turbid to promote tissue regeneration and recovery of ulceration. In recent ten years, medical workers and researchers have conducted great number of clinical and laboratory researches on *Qingchang Shuan* for treatment of UC. A review of the researches is presented in the following.

#### Clinical Researches

The clinical research on *Qingchang Shuan* starts early in 1980s, which is a herbal suppository made by screening the herbs from the effective enema prescriptions.<sup>2,3</sup> MA Gui-tong, et al. made a clinical analysis in 2003 for 253 cases of UC treated by *Qingchang Shuan* since 1990.<sup>4</sup> They were in- and out-patients of Longhua Hospital. Of them, 134 cases were male and 119 cases female, aged from 16–71 years (mean  $37.78 \pm 16.24$  years); and the duration of

the illness was from 25 days to 21 years. They had total colitis, left hemi-colitis, or rectal and sigmoid colitis. The condition was mild, moderate or severe, and the disease was preliminary, chronic persisting or chronic intermittent at the active or remission stage. The therapeutic effects were evaluated according to 'Criteria for Chronic Nonspecific UC' set in 1994 Professional Board of Digestive Diseases of the Society of Combined Chinese and Western Medicine. The results showed that, of the 253 cases treated, 123 cases (48.62%) were clinically cured, 110 (43.48%) improved and 20 (7.90%) failed. The total effective rate was 92.10%.

In order to evaluate the safety and effectiveness of *Qingchang Shuan* in the treatment of ulcerative colitis, GONG Yu-ping, et al. conducted a random, open, parallel control, and multicenter clinical trial.<sup>5</sup> The 94 cases selected were divided into the treatment group (47 cases), and control group (47 cases). *Qingchang Shuan* and azulfidine suppository were given respectively by anus insertion every night for 2 months. Evaluations were made before and after the treatment according to findings the enteroscopy and pathological examinations, and the changes of symptoms in the TCM damp-heat syndrome of the intestinal tract. The results showed that the total effective rate of the comprehensive therapeutic effectiveness was 91.49% in the treatment group, and 87.23% in the control group; the total effective rate of the TCM syndrome therapeutic effectiveness was 97.87% in the treatment group, and 91.48% in the control group, suggesting that the TCM syndrome therapeutic effectiveness in the treatment group was superior to that of the control group. A one-year follow-up showed that the recurrence rate of the treatment group was 9.30%, lower than that of the control group (26.83%). No abnormal reactions were found in the two groups. The results suggested that *Qingchang Shuan* has a definite therapeutic effect especially for the mild, moderate, active-stage, and damp-heat type ulcerative colitis below the left

semicolon, and with a low recurrence rate.

### Experimental Researches

ZHANG Xiao-feng, et al. found that *Qingchang Shuan* can decrease the plasma TXB<sub>2</sub> level in rats with TNBS-induced colitis, increase the 6-keto-PGF<sub>1α</sub> level, lower the ratio of TXB<sub>2</sub>/6-keto-PGF<sub>1α</sub>, and inhibit the expressions of the colic mucosa IL-1β and IL-6mRNA, with the effects of anti-inflammation, improving blood circulation of the intestinal mucosa and ulcer-healing.<sup>6,7</sup>

CHEN Jiang, et al. found that one of the mechanisms of *Qingchang Shuan* for treatment of UC is lowering the expressions of IL-2RmRNA and IL-6RmRNA evidenced in the rat colic tissues with TNBS-induced colitis, decreasing the contents of sIL-2R and sIL-6R in blood serum and in the colic tissues, inhibiting the activation and proliferation of T lymphocytes, decreasing the generation of inflammatory medium, and regulating the immune balance.<sup>8</sup>

XIE Jian-qun, et al. established the model rats with colitis induced by TNBS, and found by electroscope, flow cytometer, immunohistochemical method, RT-PCR, TUNEL staining and Western-blot that the apoptosis of lymphocytes in proper layer of the colic mucosa is one of the mechanisms for controlling ulcerative colitis. The changes in the levels of IL-1β and IL-13 may play a very important role in the occurrence of ulcerative colitis in rats, which is closely related with the apoptosis of lymphocytes in proper layer of the colic mucosa. Probably, *Qingchang Shuan* can yield the effect of relieving the ulcerative colitis in rats by means of affecting the expressions of gene and key enzyme of apoptosis, i. e. promote the synchronizing expression of Fas/FasL, up-regulate the expressions of Bax and Caspase-3, and down-regulate the expression of Bcl-2.<sup>9-12</sup>

WANG Zhen-nan, et al. found that *Qingchang Shuan* may show effect for rats with colitis by promoting the proliferation of colic mucosal cells, increasing the

number and the mucous secretion level of goblet cells, thus promoting the healing of colic ulceration.<sup>13</sup>

ZHANG Ya-li, et al. found by that *Qingchang Shuan* can give the effects of anti-inflammation and ulcer-healing by inhibiting the release of inflammation-promoting factor LTB<sub>4</sub> and tumor necrosis factor TNF- $\alpha$ , and controlling the expression of MADCAM-1.<sup>14</sup>

### Comments

The application of *Qingchang Shuan* via the intestinal tract is convenient for use, and has the following advantages: 1) the drug can directly reach the focus, and the melting point is about 37.5°C, which can be absorbed through mucosa; 2) 50%–70% of the drug absorbed by rectum can directly enter major circulation without passing through the liver, which may decrease the detoxification process in the liver, avoid the damage to the drug by acid-base and digestive enzyme from the gastrointestinal tract, and avoid the drug-produced stimulation to the gastric mucosa.

From the above-mentioned researches, we can learn that the local application of *Qingchang Shuan* is capable of clearing away heat and toxic materials, and removing blood stasis to promote regeneration of new tissues, with obvious therapeutic effects for mild or moderate UC in the lower part of left semicolon. This Chinese herbal suppository fits the characteristics of UC of the Chinese people, with satisfactory long-term therapeutic effects and low recurrence rate. Being safe and nontoxic, convenient for use, and cheap, *Qingchang Shuan* can gain the acceptance from the patients, suitable for long-term use and worthy of recommendation.

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